

In the Claims:

Please amend the claims as follows:

1. (currently amended) ~~Power~~ A power supply system for an industrial robot (1), comprising:

a transmitting part (11) including a first coil (14) and a first converter (13) for producing an alternating magnetic field from the first coil, and

a receiving part (12) comprising a second coil (15) for providing an alternating current by induction from the alternating magnetic field and a second converter (16) for producing from the alternating current a direct current for providing power to a tool (8) carried by the robot,

wherein ~~characterized in that~~ the transmission part (11) is attached to the industrial robot (1), ~~that~~ wherein the receiving part (12) is attached to the tool (8), ~~that~~ wherein the transmitting part (11) comprises a tunable resonance electric circuit (13, 14), and ~~that~~ wherein the second coil (15) is detachable from the first coil (14).

2. (currently amended) ~~Power~~ The power supply system according to claim 1, wherein the first coil (14) and the second coil (15) are arranged coaxially.

3. (currently amended) ~~Power~~ The power supply system according to claim 1, wherein the first coil (14) and the second coil (15) are arranged in parallel planes.

4. (currently amended) ~~Power~~ The power supply system according to claim 1 ~~or~~ 2,

wherein the first coil (14) and the second coil (15) comprises a ring-shaped form.

5. (currently amended) ~~Power~~ The power supply system according to ~~any of the preceding claims~~ claim 1, wherein the first coil (14) and the second coil (15) comprises a printed circuit board.

6. (currently amended) ~~Power~~ The power supply system according to ~~any of the preceding claims~~ claim 1, wherein the second coil (19) comprises a core (20) of magnetizable material.

7. (currently amended) ~~Power~~ The power supply system according to ~~any of the preceding claims~~ claim 1, wherein any of the first converter (13) and the second converter (16) comprises a control unit containing a microprocessor (17) and memory means (18).

8. (currently amended) ~~Method~~ A method for supplying power to a tool (8) carried by an industrial robot (1), wherein a direct current is provided to a transmitting part of a power supply system (10) comprising a first coil (14) and a first converter (13), the direct current is converted by the first converter (13) and the first coil (14) for producing an alternating magnetic field, a second coil (15) of a receiving part (12) of the power supply system is arranged to produce by induction an alternating current from the magnetic field, and the alternating current is converted into a direct current by a second converter (16) of the receiving part of the power supply system, the method comprising:

~~characterized in,~~ attaching the first coil (14) to the industrial robot,

attaching the second coil (15) to the tool (8) and detachable from the first coil, and
arranging the first coil (13) and the first converter (13) in a resonance circuit, thereby
increasing the current in the first coil thus producing an increased magnetic field.

9. (currently amended) ~~Method~~ The method according to claim 8, wherein the resonance
circuit comprises an adjustable resonance circuit in order to account for variations in the
impedance of the circuit due to incompleteness of the alignment of the first coil and second coil.

10. (currently amended) ~~Industrial~~ An industrial robot, comprising: (1) characterized in,
~~that the robot comprises~~
a power supply system according to ~~any of the claims 1-7~~ claim 1.

11. (currently amended) ~~Computer~~ A computer program product, comprising:
instructions for affect a processor to perform the method according to ~~any of claim 8 or 9~~
claim 8.

12. (currently amended) ~~Computer~~ The computer program product according to claim
11 provided at least in part over a network such as the Internet.

13. (original) A computer readable medium containing a computer program product
according to claim 11.